

Mr. Russell Alberson  
Fort Wayne Foundry Corp. - Pontiac Street Division  
2509 East Pontiac Street  
Fort Wayne, IN 46803

Re: **003-14364**  
Minor Source Modification to:  
Part 70 Operating Permit No.: **T 003-6026-00070**

Dear Mr. Alberson:

Fort Wayne Foundry Corp. - Pontiac Street Division was issued Part 70 operating permit T 003-6026-00070 on January 6, 2000 for secondary aluminum metal production source. An application to modify the source was received on May 7, 2001. Pursuant to 326 IAC 2-7-10.5 the following emission unit is approved for construction at the source:

One (1) cold box core machine, identified as CM-10, exhausting to stack C6, capacity: 0.75 tons of cores per hour.

This modification will not increase the capacity, potential to emit or limited potential to emit of any of the other facilities at this source. A maximum of 0.75 tons of sand per hour will be allocated for this core machine. However, the total capacity, potential to emit and limited potential to emit of the sand handling will not increase as a result of this modification.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Quality (OAQ).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit  
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.
4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless

modified in a manner consistent with procedures established pursuant to 326 IAC 2.

6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The source may begin construction and operation when the minor source modification has been issued. Operating conditions shall be incorporated into the Part 70 operating permit as a minor permit modification (MPM 003-14552-00070) in accordance with 326 IAC 2-7-10.5(l)(2) and 326 IAC 2-7-12.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter contact CarrieAnn Ortolani, c/o OAQ, 100 North Senate Avenue, P.O. Box 6015, Indianapolis, Indiana, 46206-6015, at 631-691-3395 or in Indiana at 1-800-451-6027 (ext 631-691-3395).

Sincerely,

Paul Dubenetzky, Chief  
Permits Branch  
Office of Air Quality

Attachments (Revised and additional permit pages and Technical Support Document)

CAO/MES

cc: File - Allen County  
Allen County Health Department  
Air Compliance Section Inspector - Jennifer Dorn  
Compliance Data Section - Karen Nowak  
Administrative and Development - Janet Mobley  
Technical Support and Modeling - Michele Boner

**PART 70 OPERATING PERMIT  
and ENHANCED NEW SOURCE REVIEW  
OFFICE OF AIR QUALITY\***

**Fort Wayne Foundry Corp. - Pontiac Street Division  
2509 East Pontiac Street  
Fort Wayne, Indiana 46803**

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-7 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

|   |  |
|---|--|
| Operation Permit No.: T003-6027-00070   |  |
| Issued by:<br>Janet G. McCabe, Assistant Commissioner<br>Office of Air Management | Issuance Date: January 6, 2000<br><br>Expiration Date: January 6, 2005 |

  

|   |                                       |
|---|---------------------------------------|
| First Minor Source Modification No.:<br>003-14364-00070               | Pages affected: 5 and 8; 55a is added |
| Issued by:<br>Paul Dubenetzky, Branch Chief<br>Office of Air Quality* | Issuance Date:                        |

\*As of January 1, 2001, the name of the Office of Air Management (OAM) has been changed to the Office of

Air Quality (OAQ). All references to Office of Air Management (OAM) should be read as Office of Air Quality (OAQ).

- D.6.6 Parametric Monitoring
- D.6.7 Baghouse Inspections
- D.6.8 Broken Bag or Failed Bag Detection

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

- D.6.9 Record Keeping Requirements

**D.7 FACILITY OPERATION CONDITIONS - Isocure Machines ISO-1 and ISO-2**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.7.1 Volatile Organic Compounds (VOC) [326 IAC 2-2]
- D.7.2 Preventive Maintenance Plan [326 IAC 2-7-5(13)]

**Compliance Determination Requirements**

- D.7.3 Testing Requirements [326 IAC 2-7-6(1),(6)]

**Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

- D.7.4 Record Keeping Requirements
- D.7.5 Reporting Requirements

**D.8 FACILITY OPERATION CONDITIONS - Degreasing Operations**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.8.1 Volatile Organic Compounds (VOC) [326 IAC 8-3-2]
- D.8.2 Volatile Organic Compounds (VOC) [326 IAC 8-3-5]
- D.8.3 Hazardous Air Pollutants (HAPs)

**D.9 FACILITY OPERATION CONDITIONS - Shotblasting, woodworking, finishing, etc.**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.9.1 Particulate Matter (PM) [326 IAC 6-3-2]

**Compliance Determination Requirements**

- D.9.2 Testing Requirements [326 IAC 2-7-6(1),(6)]

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

- D.9.3 Particulate Matter (PM)

**D.10 FACILITY OPERATION CONDITIONS - One (1) cold box core machine**

**Emission Limitations and Standards [326 IAC 2-7-5(1)]**

- D.10.1 Particulate Matter (PM) [326 IAC 6-3-2]
- D.10.2 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]
- D.10.3 Hazardous Air Pollutants (HAPs) [326 IAC 2-4.1-1]
- D.10.4 Particulate Matter (PM and PM<sub>10</sub>) [326 IAC 2-2]

**Certification**

**Emergency/Deviation Occurrence Report**

**Quarterly Report**

**Quarterly Compliance Monitoring Report**

- (5) the Disa pouring, cooling, and shakeout processes, consisting of the following:
  - (a) one (1) pouring system, identified as Disa #1, emission unit D-1, constructed in 1986, with a maximum capacity of 4.25 tons of melted aluminum per hour and a maximum capacity of 63.75 tons of sand per hour, with emissions uncontrolled, and exhausting to stack RV;
  - (b) one (1) cooling system, identified as Disa #1, emission unit D-1, constructed in 1986, with a maximum capacity of 4.25 tons of melted aluminum per hour and a maximum capacity of 63.75 tons of sand per hour, with emissions uncontrolled, and exhausting internally;
  - (c) one (1) castings shakeout knockout system, identified as Disa #1, emission unit D-1, constructed in 1986, with a maximum capacity of 4.25 tons of melted aluminum per hour and a maximum capacity of 63.75 tons of sand per hour, with emissions uncontrolled, and exhausting internally;
- (6) one (1) sand handling system, consisting of the following:
  - (a) one sand muller, identified as SM-1, constructed in 1977, with a maximum capacity of 90 tons of sand per hour, controlled by baghouse CD1, and exhausting through stack CD1;
  - (b) sand conveying and screening, identified as SS-1, constructed in 1977, with a maximum capacity of 90 tons of sand per hour, controlled by baghouse CD1, and exhausting through stack CD1;
- (7) the core making process, consisting of nine (9) core making machines, identified as CM-1 through CM-9, constructed in 1986, 1986, 1987, 1990, 1991, 1994, 1994, 1995, and 1998, respectively, each with a maximum capacity of 0.75 ton of sand per hour, all uncontrolled and exhausting through stacks C5 and C6.
- (8) One (1) cold box core machine, identified as CM-10, exhausting to stack C6, capacity: 0.75 tons of cores per hour.

A.3 Specifically Regulated Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-7-4(c)] [326 IAC 2-7-5(15)]

This stationary source also includes the following insignificant activities which are specifically regulated, as defined in 326 IAC 2-7-1(21):

- (1) Degreasing operations that do not exceed 145 gallons per 12 months, except if subject to 326 IAC 20-6, including one (1) parts washer, constructed in 1991; [326 IAC 8-3-2][326 IAC 8-3-5]
- (2) Shotblasting operations including the following:
  - (a) one (1) Spinablast III shotblast machine, constructed in 1995, with a maximum capacity of 2 tons of aluminum castings per hour, controlled by a baghouse, designated as CD3; [326 IAC 6-3-2]
  - (b) one (1) Wheelabrator blast machine, constructed in 1987, with a maximum capacity of 1 ton of aluminum castings per hour, controlled by a baghouse, designated as CD4; [326 IAC 6-3-2] and

**SECTION D.10****FACILITY OPERATION CONDITIONS****Facility Description [326 IAC 2-7-5(15)]:**

One (1) cold box core machine, identified as CM-10, exhausting to stack C6, capacity: 0.75 tons of cores per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

**Emission Limitations and Standards [326 IAC 2-7-5(1)]****D.10.1 Particulate Matter (PM) [326 IAC 6-3-2]**

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the one (1) cold box core machine shall not exceed 3.38 pounds per hour when operating at a process weight rate of 0.75 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67}$$

where E = rate of emission in pounds per hour; and  
P = process weight rate in tons per hour

**D.10.2 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]**

Any change or modification to the one (1) cold box core machine that increases the potential to emit VOC to twenty-five (25) tons per year or more may make this modification subject to the requirements of 326 IAC 8-1-6 (New Facilities; General Reduction Requirements) and shall require prior IDEM, OAQ, approval.

**D.10.3 Hazardous Air Pollutants (HAPs) [326 IAC 2-4.1-1]**

Any change or modification to the one (1) cold box core machine that increases the potential to emit each individual HAP to ten (10) tons per year or more or increases the potential to emit any combination of HAPs to twenty-five (25) tons per year or more may make this modification subject to the requirements of 326 IAC 2-4.1-1 (New Source Toxics Control) and shall require prior IDEM, OAQ, approval.

**D.10.4 Particulate Matter (PM and PM<sub>10</sub>) [326 IAC 2-2]**

Any change or modification to the one (1) cold box core machine that increases the potential to emit PM to twenty-five (25) tons per year or more or increases the potential to emit PM<sub>10</sub> to fifteen (15) tons per year or more may make the source subject to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and shall require prior IDEM, OAQ, approval.

**Compliance Determination Requirements**

There are no specific Compliance Determination Requirements applicable to this emission unit.

**Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]**

There are no specific Compliance Monitoring Requirements applicable to this emission unit.

## Indiana Department of Environmental Management Office of Air Quality

### Technical Support Document (TSD) for a Part 70 Minor Source Modification

#### Source Background and Description

|                                 |   |
|---------------------------------|---|
| Source Name:                    | Fort Wayne Foundry Corp. - Pontiac Street Division  |
| Source Location:                | 2509 East Pontiac Street, Fort Wayne, Indiana 46803 |
| County:                         | Allen   |
| SIC Code:                       | 3365  |
| Operation Permit No.:           | T 003-6027-00070                                    |
| Operation Permit Issuance Date: | January 6, 2000                                     |
| Minor Source Modification No.:  | 003-14364-00070                                     |
| Permit Reviewer:                | CarrieAnn Ortolani/MES                              |

The Office of Air Quality (OAQ) has reviewed a modification application from Fort Wayne Foundry Corp. - Pontiac Street Division relating to the construction of the following emission unit:

One (1) cold box core machine, identified as CM-10, exhausting to stack C6, capacity: 0.75 tons of cores per hour.

This modification will not increase the capacity, potential to emit or limited potential to emit of any of the other facilities at this source. A maximum of 0.75 tons of sand per hour will be allocated for this core machine. However, the total capacity, potential to emit and limited potential to emit of the sand handling will not increase as a result of this modification.

#### History

On May 7, 2001, Fort Wayne Foundry Corp. - Pontiac Street Division submitted an application to the OAQ requesting to add a cold box core machine to their existing plant. Fort Wayne Foundry Corp. - Pontiac Street Division was issued a Part 70 permit on January 6, 2000. The Part 70 permit has been appealed and a resolution is pending.

#### Enforcement Issue

There are no enforcement actions pending.

#### Stack Summary

| Stack ID | Operation             | Height<br>(feet) | Diameter<br>(feet) | Flow Rate<br>(acfm) | Temperature<br>(EF) |
|----------|-----------------------|------------------|--------------------|---------------------|---------------------|
| C6       | Cold Box Core Machine | 27.0             | 14.1               | 3,000               | 130                 |

#### Recommendation



The staff recommends to the Commissioner that the Part 70 Minor Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on May 7, 2001. Additional information was received by telephone on June 15 and June 25, 2001.

### Emission Calculations

See page 1 of 1 of Appendix A of this document for detailed emissions calculations.

### Potential To Emit of Modification

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U.S. EPA."

This table reflects the PTE before controls. Control equipment is not considered federally enforceable until it has been required in a federally enforceable permit. This table includes the potential to emit of the one (1) cold box core machine.

| Pollutant        | Potential To Emit<br>(tons/year) |
|------------------|----------------------------------|
| PM               | 3.61                             |
| PM <sub>10</sub> | 3.61                             |
| SO <sub>2</sub>  | 0.00                             |
| VOC              | 10.7                             |
| CO               | 0.00                             |
| NO <sub>x</sub>  | 0.00                             |

| HAPs          | Potential To Emit<br>(tons/year) |
|---------------|----------------------------------|
| Triethylamine | 8.54                             |
| Phenol        | 0.361                            |
| MDI           | 0.001                            |
| TOTAL         | 8.90                             |

### Justification for Modification

The Part 70 Operating permit is being modified through a Part 70 Minor Source Modification. This

modification is being performed pursuant to 326 IAC 2-7-10.5(d)(4), Modifications that would have a potential to emit equal to or greater than ten (10) tons per year of VOC for modifications that do not require the use of air pollution control equipment to comply with the applicable provisions of 326 IAC 8.

The Part 70 Operating Permit is being modified through a Part 70 Minor Source Modification. The proposed operating conditions shall be incorporated into the Part 70 Operating Permit as a Minor Permit Modification (MPM 003-14552-00070) in accordance with 326 IAC 2-7-12(b)(1).

### County Attainment Status

The source is located in Allen County.

| Pollutant        | Status     |
|------------------|------------|
| PM <sub>10</sub> | attainment |
| SO <sub>2</sub>  | attainment |
| NO <sub>2</sub>  | attainment |
| Ozone            | attainment |
| CO               | attainment |
| Lead             | attainment |

- (a) Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Allen County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NO<sub>x</sub> emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.
- (b) Allen County has been classified as attainment or unclassifiable for all remaining criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

### Source Status

Existing Source PSD or Emission Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

| Pollutant        | Emissions<br>(tons/year) |
|------------------|--------------------------|
| PM               | 164                      |
| PM <sub>10</sub> | 81.5                     |
| SO <sub>2</sub>  | 2.00                     |
| VOC              | 144                      |

|                 |      |
|-----------------|------|
| CO              | 2.08 |
| NO <sub>x</sub> | 10.5 |

- (a) This existing source is a major stationary source because an attainment regulated pollutant is emitted at a rate of one hundred (100) tons per year or more, and it is in one of the 28 listed source categories.
- (b) These emissions are based upon the potential to emit table in the TSD for T003-6027-00070, issued on January 6, 2000. The potentials to emit CO and NO<sub>x</sub> from the entire source were taken from the OAQ 1999 emission data for this source. The potentials to emit CO and NO<sub>x</sub> were listed as 0.00 in the potential to emit table in the TSD for T003-6027-00070, issued on January 6, 2000, which is incorrect.
- (c) Fugitive Emissions  
This type of operation is in one of the 28 listed source categories under 326 IAC 2-2. Therefore, the fugitive PM emissions are counted toward determination of PSD and Emission Offset applicability.

#### Potential to Emit of Modification After Issuance

The table below summarizes the potential to emit, reflecting all limits, of the significant emission units after controls. The control equipment is considered federally enforceable only after issuance of this Part 70 source modification.

| Pollutant                 | PM<br>(tons/yr) | PM <sub>10</sub><br>(tons/yr) | SO <sub>2</sub><br>(tons/yr) | VOC<br>(tons/yr) | CO<br>(tons/yr) | NO <sub>x</sub><br>(tons/yr) |
|---------------------------|-----------------|-------------------------------|------------------------------|------------------|-----------------|------------------------------|
| Proposed Modification     | 3.61            | 3.61                          | 0.00                         | 10.7             | 0.00            | 0.00                         |
| Contemporaneous Increases | 0.00            | 0.00                          | 0.00                         | 0.00             | 0.00            | 0.00                         |
| Contemporaneous Decreases | 0.00            | 0.00                          | 0.00                         | 0.00             | 0.00            | 0.00                         |
| Net Emissions             | 3.61            | 3.61                          | 0.00                         | 10.7             | 0.00            | 0.00                         |
| PSD Significant Level     | 25              | 15                            | 40                           | 40               | 100             | 40                           |

This modification to an existing major stationary source is not major because the emissions increase is less than the PSD significant levels. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply. The potentials to emit listed in this table are the potentials to emit of the one (1) cold box core machine, without controls or limitations.

#### Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this proposed modification.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14, 326 IAC 20, 40 CFR 61 and 40 CFR Part 63) applicable to this proposed modification.

### **State Rule Applicability - Individual Facilities**

#### **326 IAC 2-4.1-1 (New Source Toxics Control)**

Since the potential to emit each individual HAP from the one (1) cold box core machine is less than ten (10) tons per year and the potential to emit any combination of HAPs from the one (1) cold box core machine is less than twenty-five (25) tons per year, the requirements of 326 IAC 2-4.1-1, New Source Toxics Control, are not applicable.

#### **326 IAC 6-3-2 (Process Operations)**

Pursuant to 326 IAC 6-3-2, the particulate matter (PM) from the cold box core machine (CM-10) shall not exceed 3.38 pounds per hour when operating at a process weight rate of 0.75 tons per hour. The potential to emit PM from the cold box core machine is 0.825 pounds per hour. Therefore, the one (1) cold box core machine will comply with this rule.

This limitation is based on the following:

Interpolation of the data for the process weight rates up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour and} \\ P = \text{process weight rate in tons per hour}$$

#### **326 IAC 8-1-6 (New Facilities; General Reduction Requirements)**

Since the potential to emit VOC from the one (1) cold box core machine is less than twenty-five (25) tons per year, the requirements of 326 IAC 8-1-6, New Facilities; General Reduction Requirements, are not applicable.

### **Compliance Requirements**

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

There are no compliance monitoring requirements applicable to this modification.

## Proposed Changes

The permit language is changed to read as follows (deleted language appears as ~~strikeouts~~, new language appears in **bold**):

### A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-7-4(c)(3)] [326 IAC 2-7-5(15)]

This stationary source consists of the following emission units and pollution control devices:

- (1) the scrap and charge handling process, constructed in 1976, with a maximum charge rate of 9.75 tons of aluminum ingots and scrap per hour, with emissions uncontrolled;
- (2) the aluminum melting process, consisting of the following:
  - (a) one (1) natural gas-fired reverberatory furnace system, identified as Disa #1/2, emission unit FD-1/2, constructed in 1986, with a maximum charge rate of 4.25 tons per hour of aluminum ingots and scrap, and with a maximum production rate of 4.25 tons of melted aluminum per hour, with emissions uncontrolled, and exhausting through stacks D2 and D10;
  - (b) one (1) natural gas-fired reverberatory furnace system, identified as Hunter #1, emission unit FH-1, constructed in 1990, with a maximum charge rate of 1.75 tons per hour of aluminum ingots and scrap, and with a maximum production rate of 1.75 tons of melted aluminum per hour, with emissions uncontrolled, and exhausting through stacks H8, H11, and H22;
  - (c) one (1) natural gas-fired reverberatory furnace system, identified Hunter #2, emission unit FH-2, constructed in 1992, with a maximum charge rate of 1.5 tons per hour of aluminum ingots and scrap, and with a maximum production rate of 1.5 tons of melted aluminum per hour, with emissions uncontrolled, and exhausting through stacks H8, H11, and H22;
  - (d) one (1) natural gas-fired reverberatory furnace system, identified Hunter #3, emission unit FH-3, constructed in 1995, with a maximum charge rate of 2.25 tons per hour of aluminum ingots and scrap, and with a maximum production rate of 2.25 tons of melted aluminum per hour, with emissions uncontrolled, and exhausting through stacks H8, H11, and H22.
- (3) the Hunter #1 pouring, cooling, and shakeout processes, consisting of the following:
  - (a) one (1) pouring system, identified as Hunter #1, emission unit H-1, constructed in 1981, with a maximum capacity of 2.25 tons of melted aluminum per hour and a maximum capacity of 33.75 tons of sand per hour, with emissions uncontrolled, and exhausting to stack H30;
  - (b) one (1) cooling system, identified as Hunter #1, emission unit H-1, constructed in 1981, with a maximum capacity of 2.25 tons of melted aluminum per hour and a maximum capacity of 33.75 tons of sand per hour, with emissions controlled by baghouse CD-1, and exhausting to stack CD-1;
  - (c) one (1) castings shakeout knockout system, identified as Hunter #1, emission unit H-1, constructed in 1981, with a maximum capacity of 2.25 tons of melted aluminum

per hour and a maximum capacity of 33.75 tons of sand per hour, with emissions controlled by baghouse CD-1, and exhausting to stack CD-1;

- (4) the Hunter #2 pouring, cooling, and shakeout processes, consisting of the following:
  - (a) one (1) pouring system, identified as Hunter #2, emission unit H-2, constructed in 1977, with a maximum capacity of 2.25 tons of melted aluminum per hour and a maximum capacity of 33.75 tons of sand per hour, with emissions uncontrolled, and exhausting to stack H30;
  - (b) one (1) cooling system, identified as Hunter #2, emission unit H-2, constructed in 1977, with a maximum capacity of 2.25 tons of melted aluminum per hour and a maximum capacity of 33.75 tons of sand per hour, with emissions controlled by baghouse CD-1, and exhausting to stack CD-1;
  - (c) one (1) castings shakeout knockout system, identified as Hunter #2, emission unit H-2, constructed in 1977, with a maximum capacity of 2.25 tons of melted aluminum per hour and a maximum capacity of 33.75 tons of sand per hour, with emissions controlled by baghouse CD-1, and exhausting to stack CD-1;
- (5) the Disa pouring, cooling, and shakeout processes, consisting of the following:
  - (a) one (1) pouring system, identified as Disa #1, emission unit D-1, constructed in 1986, with a maximum capacity of 4.25 tons of melted aluminum per hour and a maximum capacity of 63.75 tons of sand per hour, with emissions uncontrolled, and exhausting to stack RV;
  - (b) one (1) cooling system, identified as Disa #1, emission unit D-1, constructed in 1986, with a maximum capacity of 4.25 tons of melted aluminum per hour and a maximum capacity of 63.75 tons of sand per hour, with emissions uncontrolled, and exhausting internally;
  - (c) one (1) castings shakeout knockout system, identified as Disa #1, emission unit D-1, constructed in 1986, with a maximum capacity of 4.25 tons of melted aluminum per hour and a maximum capacity of 63.75 tons of sand per hour, with emissions uncontrolled, and exhausting internally;
- (6) one (1) sand handling system, consisting of the following:
  - (a) one sand muller, identified as SM-1, constructed in 1977, with a maximum capacity of 90 tons of sand per hour, controlled by baghouse CD1, and exhausting through stack CD1;
  - (b) sand conveying and screening, identified as SS-1, constructed in 1977, with a maximum capacity of 90 tons of sand per hour, controlled by baghouse CD1, and exhausting through stack CD1;
- (7) the core making process, consisting of nine (9) core making machines, identified as CM-1 through CM-9, constructed in 1986, 1986, 1987, 1990, 1991, 1994, 1994, 1995, and 1998, respectively, each with a maximum capacity of 0.75 ton of sand per hour, all uncontrolled and exhausting through stacks C5 and C6.

- (8) One (1) cold box core machine, identified as CM-10, exhausting to stack C6, capacity: 0.75 tons of cores per hour.**

## SECTION D.10 FACILITY OPERATION CONDITIONS

### Facility Description [326 IAC 2-7-5(15)]:

One (1) cold box core machine, identified as CM-10, exhausting to stack C6, capacity: 0.75 tons of cores per hour.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

### Emission Limitations and Standards [326 IAC 2-7-5(1)]

#### D.10.1 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), the allowable PM emission rate from the one (1) cold box core machine shall not exceed 3.38 pounds per hour when operating at a process weight rate of 0.75 tons per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$$E = 4.10 P^{0.67} \quad \text{where } E = \text{rate of emission in pounds per hour; and} \\ P = \text{process weight rate in tons per hour}$$

#### D.10.2 Volatile Organic Compounds (VOC) [326 IAC 8-1-6]

Any change or modification to the one (1) cold box core machine that increases the potential to emit VOC to twenty-five (25) tons per year or more may make this modification subject to the requirements of 326 IAC 8-1-6 (New Facilities; General Reduction Requirements) and shall require prior IDEM, OAQ, approval.

#### D.10.3 Hazardous Air Pollutants (HAPs) [326 IAC 2-4.1-1]

Any change or modification to the one (1) cold box core machine that increases the potential to emit each individual HAP to ten (10) tons per year or more or increases the potential to emit any combination of HAPs to twenty-five (25) tons per year or more may make this modification subject to the requirements of 326 IAC 2-4.1-1 (New Source Toxics Control) and shall require prior IDEM, OAQ, approval.

#### D.10.4 Particulate Matter (PM and PM<sub>10</sub>) [326 IAC 2-2]

Any change or modification to the one (1) cold box core machine that increases the potential to emit PM to twenty-five (25) tons per year or more or increases the potential to emit PM<sub>10</sub> to fifteen (15) tons per year or more may make the source subject to the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and shall require prior IDEM, OAQ, approval.

### Compliance Determination Requirements

There are no specific Compliance Determination Requirements applicable to this emission unit.

### Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]



**There are no specific Compliance Monitoring Requirements applicable to this emission unit.**

**Conclusion**

The construction of this modification shall be subject to the conditions of the attached Part 70 Minor Source Modification No. 003-14364-00070.

**Emission Calculations  
Core Making at a Metal Foundry**

Page 1 of 1 TSD App A

**Company Name:** Fort Wayne Foundry Corp. - Pontiac Street Division  
**Address City IN Zip:** 2509 East Pontiac Street, Fort Wayne, Indiana 46803  
**Source Modification:** MSM 003-14364  
**Plt ID:** 003-00070  
**Reviewer:** CarrieAnn Ortolani  
**Date:** May 7, 2001

|                                   |                         |            |         |
|-----------------------------------|-------------------------|------------|---------|
| Sand Process                      | Throughput tons sand/hr | PM Control | 0.0%    |
| Cold Box                          | 0.750                   |            |         |
| 3-04-003-70                       |                         |            |         |
|                                   | PM                      | PM10       | VOC     |
| Emission Factors lbs/ton produced | 1.1                     | 1.1        | 0.65    |
| Percentage of Emissions           | 100.00%                 | 100.00%    | 100.00% |
| Potential Emissions lbs/hr        | 0.825                   | 0.825      | 0.488   |
|                                   |                         |            | 3.38    |
| Potential Emissions tons/yr       | 3.61                    | 3.61       | 2.14    |

AIRS emission factors and VOC data from OCMA

| Material          | Component Usage (lbs/ton core) | Core Weight (tons/hr) | Throughput (tons/yr) | Potential Emission Rate (tons/yr) |
|-------------------|--------------------------------|-----------------------|----------------------|-----------------------------------|
| Triethylamine Gas | 2.60                           | 0.75                  | 8.541                | 8.54                              |

| HAPs From Cold Box Core Machine |                                |                       |                      |            |                |                    |                 |                   |                               |
|---------------------------------|--------------------------------|-----------------------|----------------------|------------|----------------|--------------------|-----------------|-------------------|-------------------------------|
| Material                        | Component Usage (lbs/ton core) | Core Weight (tons/hr) | Throughput (tons/yr) | HAP        | weight percent | Percent Evaporated | Percent Reacted | Percent Remaining | Potential Emissions (tons/yr) |
| Part I                          | 11                             | 0.75                  | 36.135               | Phenol     | 10.00%         | 0.00%              | 90.00%          | 10.00%            | 0.361                         |
|                                 |                                |                       |                      | Napthalene | 0.00%          | 50.00%             | 0.00%           | 50.00%            | 0.0                           |
| Part II                         | 9                              | 0.75                  | 29.565               | MDI        | 35.00%         | 0.00%              | 99.99%          | 0.01%             | 0.001                         |
|                                 |                                |                       |                      | Napthalene | 0.00%          | 50.00%             | 0.00%           | 50.00%            | 0.0                           |

| Pollutant | Potential to Emit (tons/yr) |
|-----------|-----------------------------|
| PM        | 3.61                        |
| PM-10     | 3.61                        |
| VOC       | 10.7                        |

| Summary of HAPs | Potential to Emit (tons/yr) |
|-----------------|-----------------------------|
| Phenol          | 0.361                       |
| MDI             | 0.001                       |
| Triethylamine   | 8.54                        |
| <b>Total</b>    | <b>8.90</b>                 |

**Methodology**

**HAP emissions from the core making Resins**

Factors from "Form R: Reporting of Binder Chemicals Used in Foundries," American Foundrymen's Society, Inc. & Casting Industry Suppliers Association

Potential emissions are the combination of the evaporative losses and the HAP remaining unreacted.

HAPs remaining in the core after the initial reaction from core making may be emitted during a later process.